

Neue und interessante Milben  
aus dem Genfer Museum XLVIII.  
Oribatida Americana 8 :  
Paraguay I (Acari)

by

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With 87 figures

ABSTRACT

**New and interesting mites from the Geneva Museum XLVIII. Oribatida Americana 8: Paraguay I (Acari).** — From the material collected in Paraguay by the staff of the Geneva Museum 43 species are identified, 23 of them species are described as new to science and for one of them it was necessary to establish a new genus (*Csibiplophora* gen. n.) in the family *Protoplophoridae*.

INTRODUCTION

The knowledge of the fauna of Paraguay is highly important concerning the whole of Neogaea, but especially with respect to the migration routes of the faunal elements originating from the Gondwana. The status of this region in zoogeographical view is yet far from being unified. This state of affairs may, of course, largely be due to the highly different animal groups that have been analysed.

Paraguay plays a most important role in the formulation of the area genesis of the fauna of soil mites. Having recognized this fact a joint Chilean-Hungarian soil zoological expedition (1965-1966) was organized to collect and study the soil fauna. Some of the results have already been published (BALOGH and MAHUNKA 1968-1981).

The same guiding principle instigated the Muséum d'Histoire naturelle de Genève to organize a similar expedition in 1979 to visit Paraguay (Dr. F. Baud, Dr. V. Mahnert,

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Dr. J. L. Perret, Dr. C. Vaucher). This expedition was accompanied by C. Dlouhy (Asuncion) and organized in collaboration with the Swiss Technical Cooperation Program in Paraguay (COTESU). The Ministerio de Agricultura y Ganaderia and the Servicio Nacional de Paraguay helpfully authorized this (and the subsequent) collecting trips including them in their Inventario biológico. The huge task was to collect animals from worms to vertebrates, with special regard to the soil fauna. A special value of their material is that it is derived from the northern part of the country wherefrom no such collection has been known. A good report has been published on the route and the work carried out by VAUCHER (1980).

The elaboration of the very rich material will take years, and of course, only after that we will be able to give any reliable zoogeographical evaluation.

The present contribution proposes to discuss 43 species of which 23 are new to science. The large number of new species directly indicates further researches.

For allowing me to study this highly valuable material I should like to thank Dr. B. Hauser of the Muséum d'Histoire naturelle de Genève, the keeper of the Arthropod Section.

#### LIST OF LOCALITIES

- Par-79/15: Paraguay: Amambay prov., env. 10 km sud de Bella Vista, tamisage dans îlots forestiers (en partie bambous), 11.X.1979.
- Par-79/23: Paraguay: Concepcion prov., Estancia Estrellas (au bord du Rio Apa, 50 km est de San Lazaro), tamisage feuilles mortes dans forêt galerie, 15.X.1979.
- Par-79/24: Paraguay: Concepcion prov., entre Estancia Estrellas et Estancia Primavera, tamisage dans forêt (feuilles mortes, bois pourri), 16.X.1979.
- Par-79/25: Paraguay: Concepcion prov., entre Estancia Estrellas et Estancia Primavera, sous l'écorce d'arbres morts, 17./18.X.1979.
- Par-79/26: Paraguay: Concepcion prov., Estancia Viancho Postillon (env. 5 km est de Puerto Max), tamisage dans forêt galerie, 19.X.1979.
- Par-79/27: Paraguay: Concepcion prov., entre Isla Real et Estancia Sta Maria, au bord de l'Arroyo Tagatya-mi, tamisage dans forêt (feuilles mortes, bois pourri), 20.X.1979.
- Par-79/32: Paraguay: Concepcion prov., près Estancia Garay Cué, tamisage sous bambous et bois pourri, 22.X.1979.
- Par-79/33: Paraguay: Concepcion prov., près Estancia Garay Cué, tamisage dans forêt sèche (souches et bois pourri), 22.X.1979.
- Par-79/38: Paraguay: Canendiyu prov., Itanara, tamisage au bord de l'Arroyo Itanara, alt. 430 m, 27.X.1979.

#### LIST OF IDENTIFIED SPECIES

##### **Protoplophoridae** Ewing, 1917

*Csibiplophora genavensium* gen. n., sp. n.

Locality: Par-79/33.

**Euphthiracaridae** Jacot, 1930

*Euphthiracarus (Brasilotritia) dlouhyorum* sp. n.

Localities: Par-79/33, Par-79/15, Par-79/27.

**Lohmanniidae** Berlese, 1916

*Lohmannia juliae* sp. n.

Locality: Par-79/26.

*Torpacarus omittens paraguayensis* Balogh et Mahunka, 1981

Localities: Par-79/24: 10 specimens, Par-79/26: 3 specimens.

**Epilohmanniidae** Oudemans, 1923

*Epilohmannia pallida americana* Balogh et Mahunka, 1981

Localities: Par-79/15: 2 specimens, Par-79/27: 200 specimens.  
Par-79/33: 5 Ex.

**Nothridae** Berlese, 1885

*Nothrus becki* Balogh et Mahunka, 1981

Localities: Par-79/24: 10 specimens, Par-79/26: 3 specimens.

**Camisiidae** Oudemans, 1900

*Camisia arcuata* Hammer, 1961

Localities: Par-79/32: 20 specimens, Par-79/33: 1 specimen, Par-79/38: 2 specimens.

**Trhypochthoniidae** Willmann, 1931

*Afronthrus incisivus paraguayensis* ssp. n.

Locality: Par-79/33.

*Archezogetes magnus longisetosus* Aoki, 1975

Localities: Par-79/23: 100 specimens, Par-79/24: 200 specimens.

**Malaconothridae** Berlese, 1916

*Malaconothrus hauseri* sp. n.

Localities: Par-79/24, Par-79/27.

**Hermanniellidae** Grandjean, 1934

*Hermannobates monstrosus* Hammer, 1961

Locality: Par-79/15: 5 specimens.

*Sacculobates heterotrichus* sp. n.

Localities: Par-79/23, Par-79/15, Par-79/27.

**Microtegeidae** Balogh, 1972

*Microtegeus quadristriatus* sp. n.

Localities: Par-79/33, Par-79/26.

**Charassobatidae** Grandjean, 1958

*Charassobates baudi* sp. n.

Locality: Par-79/26.

*Charassobates minimus* Balogh et Mahunka, 1981

Locality: Par-79/27: 1 specimen.

*Charassobates tuberosus* Balogh et Mahunka, 1981

Locality: Par-79/32: 15 specimens.

**Microzetidae** Grandjean, 1936

*Berlesezetes brazilozetoides* Balogh et Mahunka, 1981

Localities: Par-79/26: 1 specimen, Par-79/27: 1 specimen.

*Schalleria ramosa* Balogh et Mahunka, 1969

Locality: Par-79/23: 6 specimens.

**Xenillidae** Woolley et Higgings, 1966

*Xenillus longipes* sp. n.

Localities: Par-79/23, Par-79/15, Par-79/27.

**Astegistidae** Balogh, 1961

*Cultroribula zicsii* Balogh et Mahunka, 1981

Locality: Par-79/38: 7 specimens.

**Metrioppiidae** Balogh, 1943

*Amazoppia tricuspadata* Balogh et Mahunka, 1969

Locality: Par-79/23: 1 specimen.

**Carabodidae** C. L. Koch, 1837

*Austrocarabodes vaucheri* sp. n.

Localities: Par-79/26, Par-79/15, Par-79/27.

*Carabodes atrichosus* sp. n.

Localities: Par-79/26, Par-79/32, Par-79/38.

*Carabodes excellens* Balogh et Mahunka, 1969

Locality: Par-79/24: 25 specimens.

*Gibbicepheus austroamericanus* sp. n.

Localities: Par-79/26, Par-79/15.

#### Oppiidae Grandjean, 1954

*Aeroppia nasalis* sp. n.

Localities: Par-79/23, Par-79/27.

*Cuneoppia laticeps* Balogh et Mahunka, 1969

Localities: Par-79/26: 3 specimens, Par-79/32: 1 specimen.

*Rioppia nodulifera* Balogh et Mahunka, 1977

Locality: Par-79/38: 1 specimen.

#### Rhynchoribatidae Balogh, 1961

*Suctoribates neotropicus* Balogh et Mahunka, 1969

Localities: Par-79/32: 3 specimens, Par-79/33: 6 specimens.

#### Cymbaeremeidae Sellnick, 1928

*Scapheremaeus bisculpturatus* sp. n.

Locality: Par-79/26.

*Scapheremaeus longicuspis* sp. n.

Locality: Par-79/33.

#### Licneremaeidae Grandjean, 1931

*Licneremaeus atypicus* sp. n.

Locality: Par-79/33.

#### Oripodidae Jacot, 1925

*Benoibates chacoensis* sp. n.

Locality: Par-79/26.

*Benoibates plurisetus* sp. n.

Locality: Par-79/26.

*Oripoda maxensis* sp. n.

Locality: Par-79/26.

#### Oribatulidae Thor, 1929

*Urubambates paraguayensis* Balogh et Mahunka, 1981

Locality: Par-79/32: 5 specimens.

*Scheloribates dlouhyi* sp. n.

Locality: Par-79/24.

**Haplozetidae** Grandjean, 1936

*Peloribates paraguayensis* Balogh et Mahunka, 1981

Localities: Par-79/23: 50 specimens, Par-79/24: 2 specimens.

*Peloribates perreti* sp. n.

Locality: Par-79/26.

**Nasobatidae** Balogh, 1972

*Nasobates paraguayensis* sp. n.

Locality: Par-79/23.

**Ceratozetidae** Jacot, 1925

*Ceratobates spathulatus* Balogh et Mahunka, 1981

Locality: Par-79/24: 5 specimens.

*Megallozetes mahnerti* sp. n.

Locality: Par-79/23.

**Oribatellidae** Jacot, 1925

*Guaranozetes nudus* Balogh et Mahunka, 1981

Locality: Par-79/24: 15 specimens.

## DESCRIPTIONS

**Csibiplophora** gen. n.

Diagnosis: Family *Protoplophoridae*. Rostrum rounded, Sensillus elongated, fusiform. Anal and adanal plates fused, with 4 pairs of ano-adanal setae. First leg with 2, 2nd-4th legs with three claws. Last segment of palpus elongated, very long, with simple, comparatively short setae.

Type species: *Csibiplophora genavensium* sp. n.

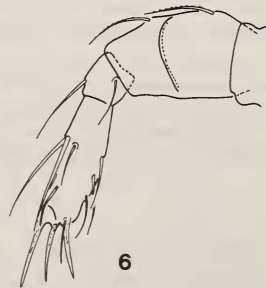
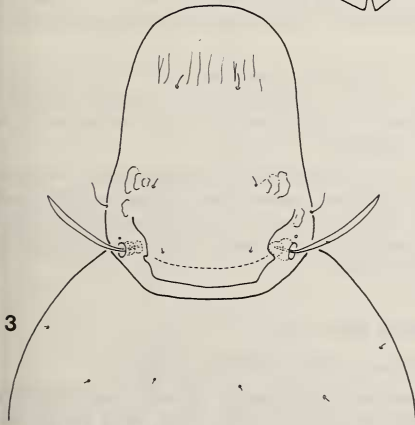
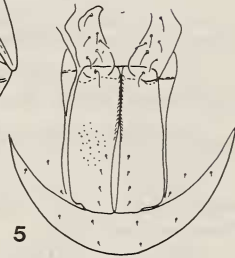
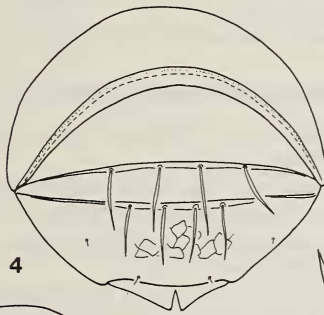
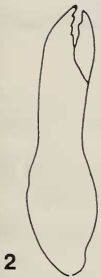
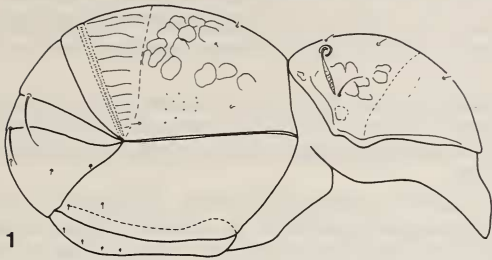
Remarks: On the ground of the fused ano-adanal plates and their chaetotaxy the new genus stands nearest the genus *Cryptoplophora* Grandjean, 1932. In this genus however the rostrum is dentate, all legs have 3 claws and the last palpal segment has long, ribbon-shaped setae.

I dedicate the new genus to my wife, Mrs. L. Mahunka-Papp, for her most valuable help in my work.

**Csibiplophora genavensium** sp. n.

Measurements: Length of aspis: 100-115  $\mu\text{m}$ , length of notogaster: 153-162  $\mu\text{m}$ .

Aspis (Fig. 3): Rostrum wide, rounded. Rostral, lamellar and interlamellar setae minute, *exa* much longer than former ones, *exp* represented by alveoli only. Sensillus fusiform, smooth.



FIGS. 1-6.

*Csibiplophora genavensium* sp. n.

1: lateral side, 2: chelicera, 3: prodorsum from dorsal view, 4: notogaster from posterior view, 5: anogenital region, 6: palpus.

*Notogaster* (Fig. 1): Finely punctated, with weak polygonal ornamentation. Setae *c* and *d* minute, *e* and *f* thickened, fusiform. Setae *h* and *ps* also minute (Fig. 4).

Anogenital region (Fig. 5): Genital plate with 7 pairs of setae. Anoadanal plate angular, punctuated. 4 pairs of simple and short anoadanal setae near to inner margin of plates.

Gnathosoma and legs: Basal part of chelicera (Fig. 2) elongated, nearly pelopoid. Basal segment of palpus (Fig. 6) large, genu short, tibiotarsus very long; setae, also eupathids, normal, short. Legs 2-4 with 3 claws, heterodactylous. Lateral claws with a basal tooth.

Material examined: Holotype: Par-79/33; 6 paratypes from the same sample. Holotype and 4 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 2 paratypes (668-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The characters given in the generic diagnosis distinguish the new species from all known forms in the family.

I dedicate the new species to all members of the Genevese expedition to Paraguay.

#### ***Euphthiracarus (Brasilotritia) dlouhyorum* sp. n.**

Measurements: Length of aspis: 155-184  $\mu\text{m}$ , length of notogaster: 291-320  $\mu\text{m}$ , height of notogaster: 203-285  $\mu\text{m}$ .

Aspis (Fig. 9): Prodorsal setae long, distance between rostral setae much greater than between lamellar ones. Sensillus long, with a fusiform and ciliated head.

Notogaster (Fig. 7): 14 pairs of short, slightly barbed setae, without essential differences between them. Surface finely punctate.

Anogenital region (Fig. 8): Nine pairs of minute genital, one pair of aggenital setae. Anterior triangle of anoadanal plate very long, posterior triangle much smaller. *Fissura terminalis* long.

Material examined: Holotype: Par-79/33; 5 paratypes from the same sample; 1 paratype: Par-79/15; 2 paratypes: Par-79/27. Holotype and 5 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 3 paratypes (669-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: Only the type-species of the subgenus *Brasilotritia* Märkel, 1964 of the genus *Euphthiracarus* Ewing, 1917 has so far been known. The new species differs from it by the shape of sensillus and by the distance between the rostral and lamellar setae.

I dedicate the new species to C. Dlouhy and his family (Asuncion, Paraguay) for their help in the collecting of this rich material.

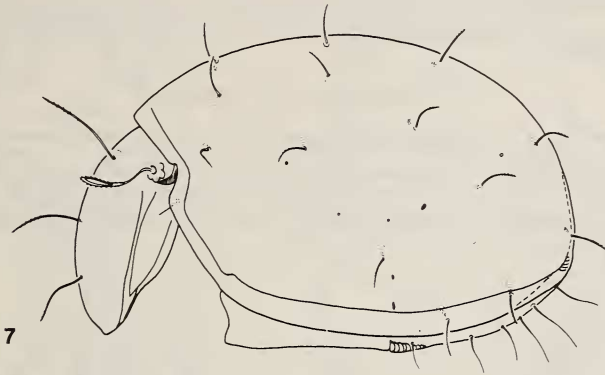
#### ***Lohmannia juliae* sp. n.**

Measurements: Length: 834-898  $\mu\text{m}$ , width: 407-422  $\mu\text{m}$ .

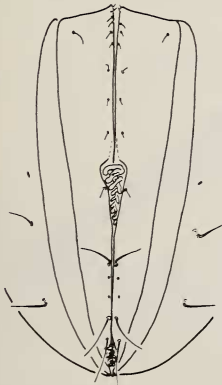
Dorsal side (Fig. 10): Rostrum narrowed and elongated. Anterior margin concave. Rostral setae widened, phylliform, longer than lamellar ones. These latter and all prodorsal setae—except *ex*<sub>1</sub>—narrowed, phylliform, their surface roughened. Setae *exp* (Fig. 13) nearly round, with dentate margin. Sensillus with 11-13 longer and, on the other side, 7-8 much shorter lateral branches. Median setae of notogaster phylliform (Fig. 14), marginal setae long, narrower, all ciliated. Sculpture of surface similar to that of *L. lanceolata* Grandjean, 1950, however, first transversal band shorter.



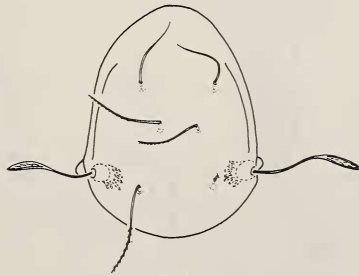
Ventral side (Fig. 8): All setae of mentum and epimeral region phylliform, their surface squamose. Setae of inner part of genital plates much wider than lateral ones. Anal and adanal setae with narrow velum.



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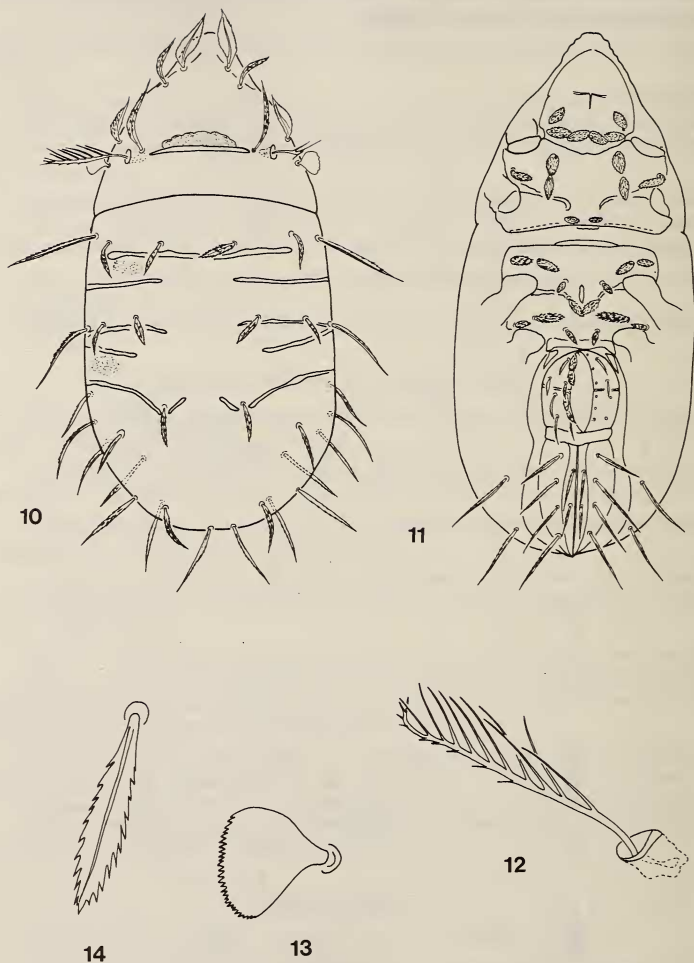


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FIGS. 7-9.

*Euphthiracarus dlohyorum* sp. n.

7: lateral view, 8: anogenital region, 9: aspis from dorsal view



FIGS. 10-14.

*Lohmannia juliae* sp. n.10: dorsal side, 11: ventral side, 12: sensillus, 13: seta *exp.*, 14: seta *d*<sub>1</sub>.

Material examined: Holotype: Par-79/26; 3 paratypes from the same sample. Holotype and 2 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (670-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

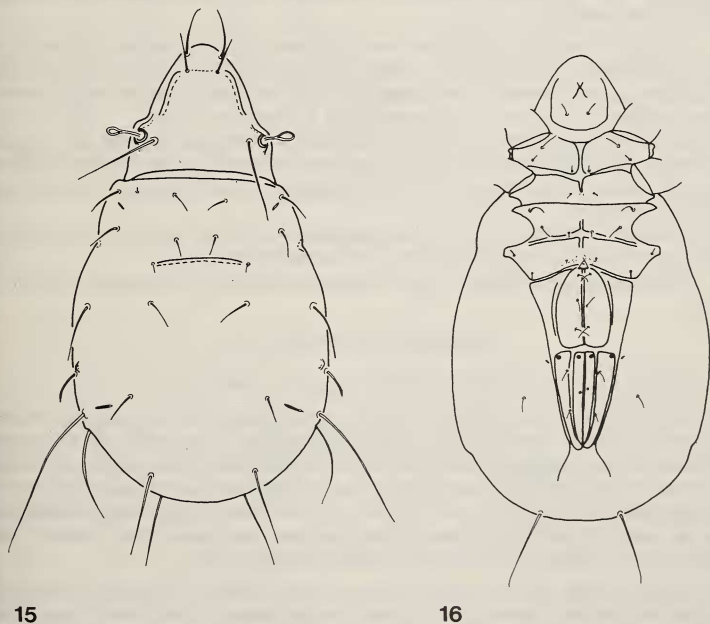
Remarks: The new species belongs to a species-group of the genus *Lohmannia* Michael, 1898 which is characterized by the round *exp* setae. Owing to the wide phylliform rostral setae it stands nearest to *L. lanceolata* Grandjean, 1950. However, the notogastral setae of the latter are simple, which in the new species are phylliform.

I dedicate the new species to my little friend, Julia Hauser.

*Afronothrus incisivus paraguayensis* ssp. n.

Measurements: Length: 582-621  $\mu\text{m}$ , width: 320-345  $\mu\text{m}$ .

Dorsal side (Fig. 15): Its form is similar to the other subspecies of *Afronothrus incisivus*, however, insertion points of the lamellar setae are connected by a transversal lath, and a similar one is running along the lateral margin of prodorsum. A well visible



FIGS. 15-16.

*Afronothrus incisivus paraguayensis* ssp. n.

15: dorsal side, 16: ventral side.

sulcus between setae  $d_2$ . Notogastral setae  $f_2$  slightly widened, great difference in length exists between setae  $e_1$  and  $e_2$ .

Ventral side (Fig. 16): Sternal apodema weakly developed. Epimeral setal formula 3-1-3-3 (sometimes 3-1-3-4). Anal plates with one pair of insertion points.

Material examined: Holotype: Par-79/33; 8 paratypes from the same sample. Holotype and 5 paratypes preserved in the Muséum d'Histoire naturelle, Genève, 3 paratypes (671-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: On the ground of the description the new species differs from all its congeners.

***Malaconothrus hauseri* sp. n.**

Measurements: Length: 417-447  $\mu\text{m}$ , width: 189-218  $\mu\text{m}$ .

Dorsal side (Fig. 17): Body covered with secretion contaminated with soil granules. Setae of prodorsum—excepting setae *in*—widened, phylliform. Interlamellar ones simple and thin. Marginally one pair of insertion points present (Fig. 20). Surface of prodorsum with S-shaped and thick costulae, without transversal lines. Notogastral setae phylliform (Fig. 19) too, with small barbs laterally. Notogaster with lateral costula both marginally (Fig. 21) and medially.

Ventral side (Fig. 18): Median setae of epimeral region short and obtuse,  $3c$  and  $4c$  long, thickened basally. All other setae ciliated. Genital plates with 5 pairs of setae, all fusiform,  $g_1$  the shortest,  $g_5$  the longest of all. Three pairs of adanal setae, similar in shape, one pair of anal setae, represented only by insertion points.

Material examined: Holotype: Par-79/24; 4 paratypes from the same sample; 1 paratype: Par-79/27. Holotype and 3 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 2 paratypes (672-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The new species is characterized by its dorsal setae, mainly by the big difference in length of the interlamellar and exobothridial ones.

I dedicate the new species to Dr. B. Hauser, my friend, for his extensive help in my work.

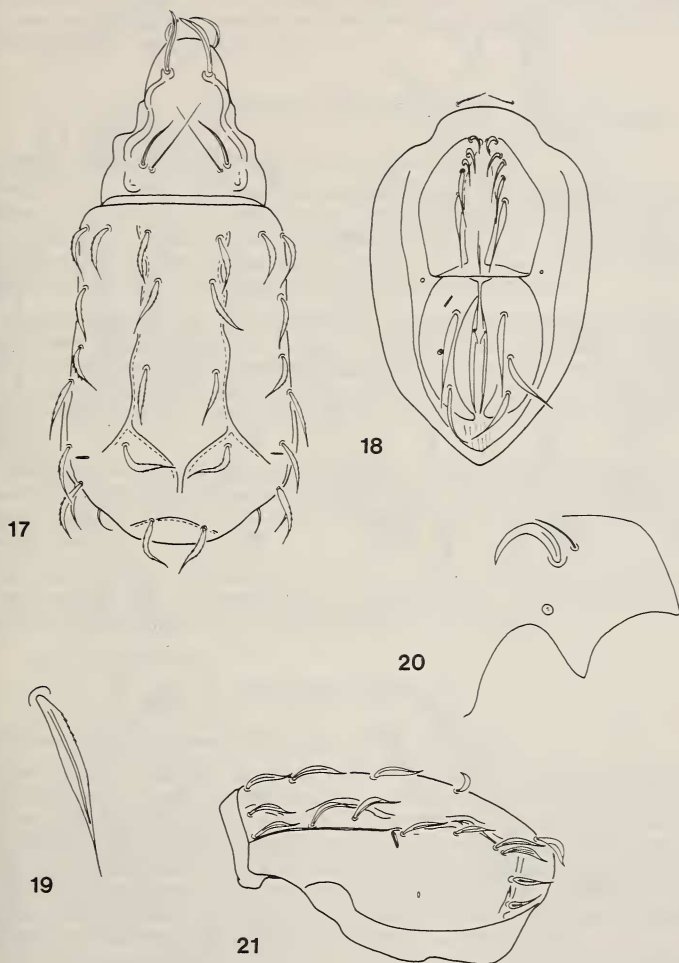
***Sacculobates heterotrichus* sp. n.**

Measurements: Length: 621-689  $\mu\text{m}$ , width: 417-461  $\mu\text{m}$ .

Dorsal side (Fig. 22): Rostrum wide, rounded. Rostral and lamellar setae setiform, unilaterally barbed. Lamellar setae obtuse, originating in the middle of a triangular chitinous crescent, larger than sensillus, barbed concentrically. Sensillus (Fig. 23) slightly thickened at its distal end, weakly barbed too. Exobothridial setae minute. Notogaster (tritonymphal exuviae) with 13 pairs of setae, different in length and shape. Some originating on anterior part of notogaster being narrower but longer than posterior ones. Setae  $h_1$ - $h_3$  the widest, surface ciliated, with longitudinal ribs.

Ventral side: Epimeral setal formula: 3-1-3-3. Setae  $1c$  thick, all others simple, acicular but barbed. Among genital setae 6 pairs minute, 1 pair much longer, latter originating far from inner margin. Anal and adanal setae of gradually increasing length ( $an_1 > an_2$ ,  $ad_1 > ad_2 > ad_3$ ),  $ad_1$  spatulate.

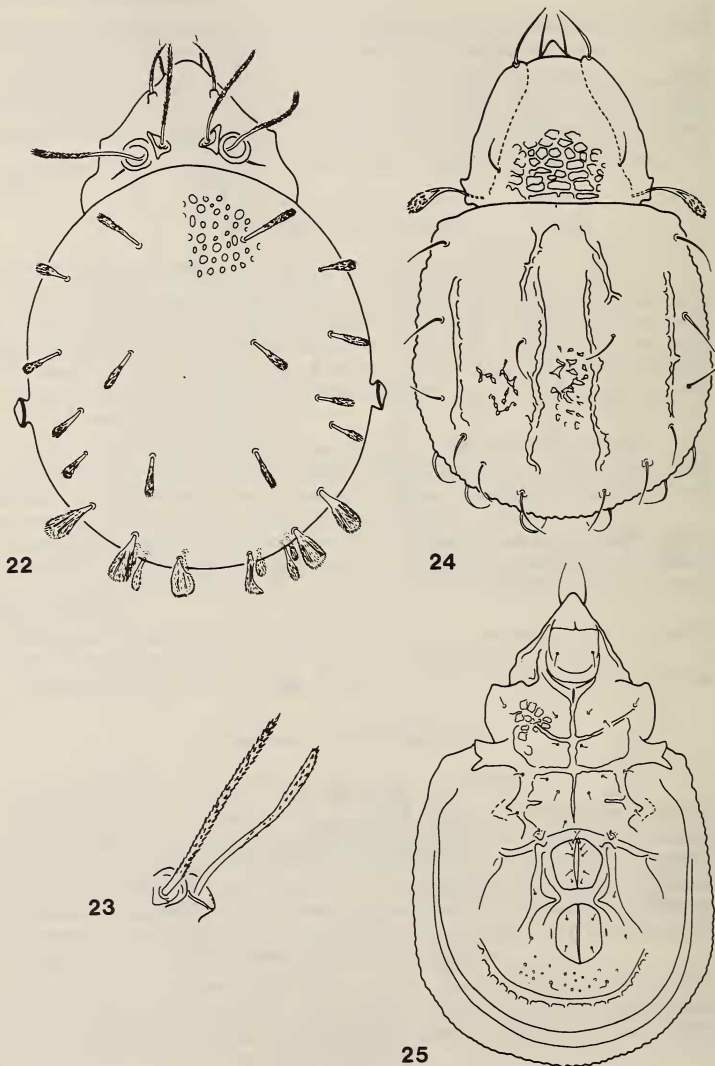
Material examined: Holotype: Par-79/23; 7 paratypes from the same sample; 11 paratypes: Par-79/15; 25 paratypes: Par-79/27. Holotype and 26 paratypes preserved



FIGS. 17-21.

*Malacothontrus hauseri* sp. n.

17: dorsal side, 18: anogenital region, 19: notogastral seta, 20: prodorsum from lateral view, 21: notogaster from lateral view.



FIGS. 22-25.

*Sacculobates heterotrichus* sp. n. — 22: dorsal side, 23: bothridial region.  
*Microtegeus quadristriatus* sp. n. — 24: dorsal side, 25: ventral side.

in the Muséum d'Histoire naturelle, Genève; 17 paratypes (673-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: Among the two heretofore known species of *Sacculobates* Grandjean, 1962 none has 13 pairs of notogastral setae and there exist also some differences in shape of the interlamellar and lamellar setae.

#### *Microtegeus quadristriatus* sp. n.

Measurements: Length: 295-320  $\mu\text{m}$ , width: 203-214  $\mu\text{m}$ .

Dorsal side (Fig. 24): Rostrum triangular, rostral, lamellar and interlamellar setae long, among them setae *le* the longest. Peduncle of sensillus also long, more than twice longer than its head. Interlamellar region with well-developed polygonal sculpture. Notogaster with 10 pairs of long setae. Surface with 2 pairs of strong longitudinal costulae, between them short irregular chitinous laths and crescents.

Ventral side (Fig. 25): Apodemes thin, *ap. sa.* not reaching transversal one before genital plates. Epimeral surface with large foveolae laterally, making up a polygonal sculpture, medially weakly ornamented. Genital and anal openings framed with sharp chitinous crescents. Surface with granules. Epimeral setal formula: 3-1-3-3, all setae minute. 5 pairs of genital, 1 pair of aggenital, 2 pairs of anal and 2 pairs of adanal setae present.

Material examined: Holotype: Par-79/33; 2 paratypes from the same sample; 1 paratype: Par-79/26. Holotype and 2 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (674-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The present species is well characterized by the long interlamellar setae, the long sensillus, and the ornamentation of the prodorsum. From all similar species it may be distinguished by the 4 sharp costulae on the notogaster.

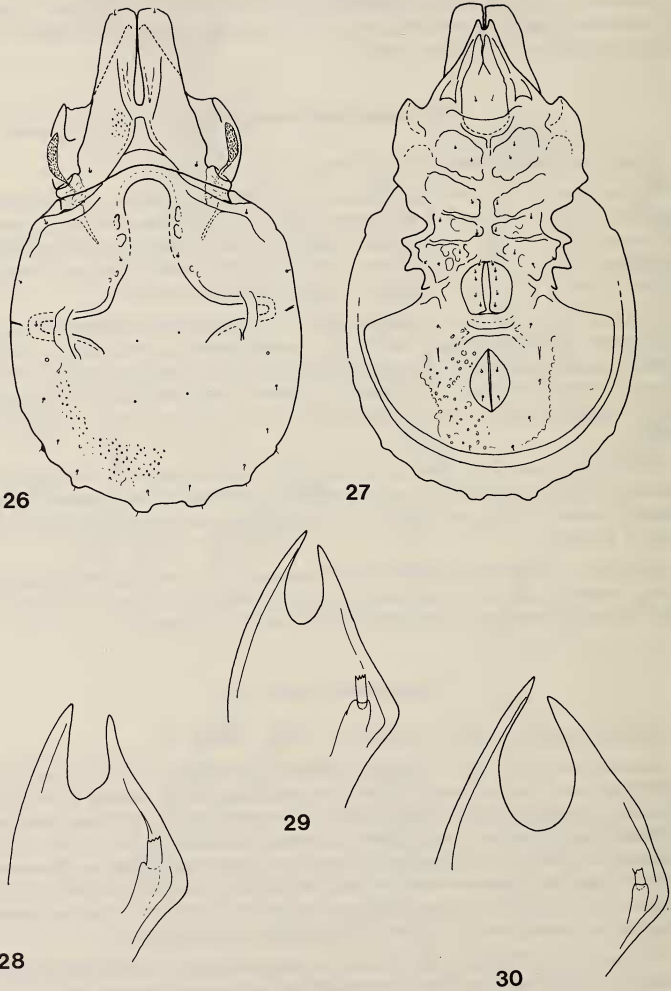
#### *Charassobates baudi* sp. n.

Measurements: Length: 368-398  $\mu\text{m}$ , width: 208-243  $\mu\text{m}$ .

Dorsal side (Fig. 26): Lamellae wide, with elongated foveolae. Lamellar and interlamellar setae minute. Sensillus short, not reaching anterior margin of pedotecta 1. Dorsosejugal suture not interrupted medially. Notogaster with a very large longitudinal and transversal depression. Longitudinal depression narrowed in its middle part, setae *da* situated outside of it, on convex part. Laterally with some large foveolae. Entire surface smooth. Transverse depression narrow but well framed. Posterior and lateral parts of notogaster with irregular foveolae, posterior margin of body with tubercles. Setae  $ps_{1,3}$  originating on these tubercles. A total of 13 minute notogastral setae.

Ventral side (Fig. 27): Very similar to the basic type of the genus. Surface of epimeres with some large foveolae. All setae short and simple. Between genital and anal openings a chitinous ridge running transversally, surface with foveolae too.

Material examined: Holotype: Par-79/26; 6 paratypes from the same sample. Holotype and 4 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 2 paratypes (675-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

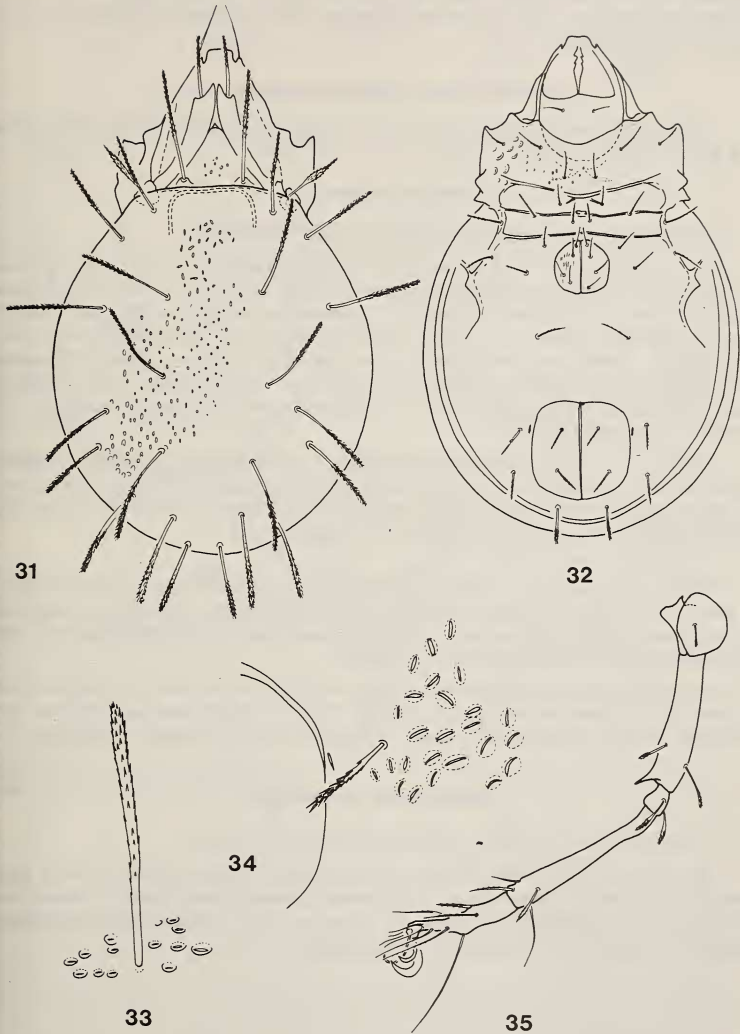


FIGS. 26-30.

*Charassobates baudi* sp. n. — 26: dorsal side, 27: ventral side.

*Schalleria ramosa* Balogh and Mahunka, 1969. — 28, 29, 30: variations of the lamellar cuspis.





FIGS. 31-35.

*Xenillus longipes* sp. n.

31: dorsal side, 32: ventral side, 33: notogastral seta, 34: sculptur of adanal region, 35: leg IV.

Remarks: The species of the genus *Charassobates* Grandjean, 1932 were surveyed by BALOGH and MAHUNKA (1981). On the ground of a key presented therein the new species stands nearest to *C. cavernosus* Grandjean, 1932, however, its surface of notogaster is very different.

*Schalleria ramosa* Balogh et Mahunka, 1969

This species is very variable, first of all the shape of its lamellar cusps. Some forms are given in Figs. 28-30.

*Xenillus longipes* sp. n.

Measurements: Length: 834-1009  $\mu\text{m}$ , width: 514-592  $\mu\text{m}$ .

Dorsal side (Fig. 31): Rostrum wide, straight anteriorly, with two deep incisions on either side laterally. Lamellae comparatively small, obliquely excised, without outer cusps. Surface of lamellae sculptured, in interlamellar region foveolae also present. Rostral setae thin, setiform and nearly smooth, lamellar and interlamellar ones stout, stick-shaped, densely and verticillately ciliate. Sensillus fusiform, ciliate. Notogaster with characteristic sculpture consisting of foveolae of varying shapes, latter anteriorly narrower, in the middle smaller than in posterior part. Notogastral setae (Fig. 33) similar to interlamellar ones.

Ventral side (Fig. 32): Surface of epimeres with a rough sculpture. Foveolae larger laterally than medially. Epimeral setae straight and ciliate. 5 pairs of genital and 1 pair of aggenital setae present, all simple. Anal and adanal setae (Fig. 34) strongly ciliate. Sculpture of ventral plate similar to notogastral one.

All legs very long (Fig. 35).

Material examined: Holotype: Par-79/23; 7 paratypes from the same sample; 6 paratypes: Par-79/15; 6 paratypes: Par-79/27. Holotype and 12 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 7 paratypes (676-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The new species belongs on the ground of its fusiform sensillus to the alliance of *X. disjunctus* Balogh et Mahunka, 1971, but differs from latter by the considerable difference existing in the shape of lamellae and the notogastral sculpture.

*Austrocarabodes vaucheri* sp. n.

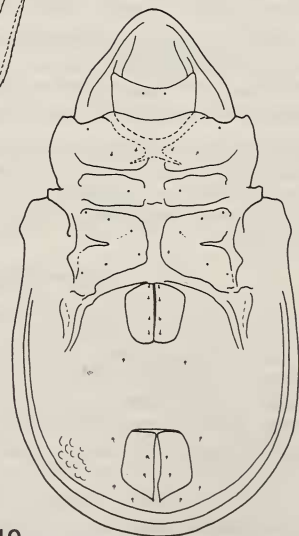
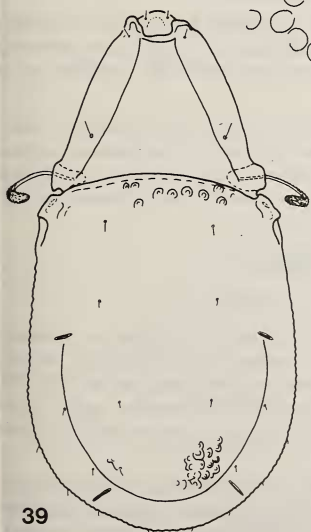
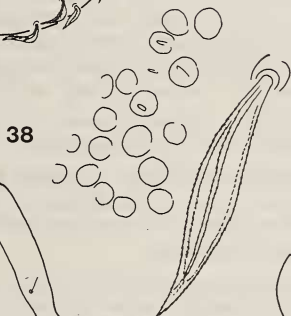
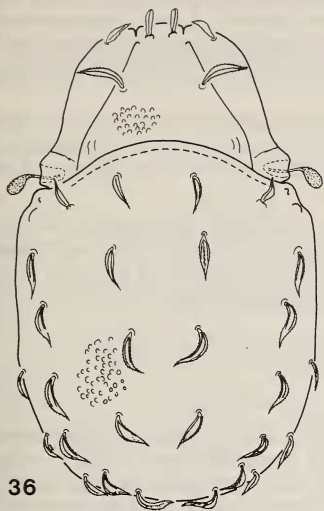
Measurements: Length: 572-655  $\mu\text{m}$ , width: 330-422  $\mu\text{m}$ .

Dorsal side (Fig. 36): Rostral and interlamellar setae phylliform, with crest medially and laterally, finely ciliate or squamose. Lamellar setae similar in shape, but wider, like the notogastral ones (Fig. 38). Sensillus short, clavate and finely barbed. Surface of prodorsum and notogaster with tubercles.

FIGS. 36-40.

*Austrocarabodes vaucheri* sp. n. — 36: dorsal side, 37: ventral side, 38: seta  $d_1$ ;

*Carabodes atrichosus* sp. n. — 39: dorsal side, 40: ventral side.



39

40

Ventral side (Fig. 37): Epimeral setae fusiform—excepting minute *la* and *lc*—all long. 4 pairs of simple genital, 1 pair of widened aggenital, 2 pairs of short anal and 3 pairs of much larger adanal setae present. Latter three pairs resembling setae of notogaster. Surface of epimere punctulated, ventral plate with tubercles, partly fused to small rugae.

Material examined: Holotype: Par-79/26; 9 paratypes from the same sample; 3 paratypes: Par-79/15; 3 paratypes: Par-79/27. Holotype and 10 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 5 paratypes (677-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The known species of the genus *Austrocarabodes* Hammer, 1966 from the Neogaea are much smaller and narrower but their notogastral setae much longer than in the new species; the most important differential character is the shape of the epimeral setae, no such feature has so far been known in any of its congeners.

#### *Carabodes atrichosus* sp. n.

Measurements: Length: 368-388  $\mu\text{m}$ , width: 194-205  $\mu\text{m}$ .

Dorsal side (Fig. 39): Rostrum elongated but rounded. Cuspis of lamellae convex medially, like a big tubercle. Rostral, lamellar and interlamellar setae simple, short and thin. Interlamellar setae originating far from each other on surface of lamellae. Sensillus gradually thickened, distal part curved. Notogaster with rough sculpture consisting of tubercles and rugae. 10 pairs of minute, simple notogastral setae (sometimes only their insertion points visible). Lyrifissures *im* and *ips* strikingly large.

Ventral side (Fig. 40): Surface of epimeres smooth, in anogenital region weak tubercles present. All setae minute. Four pairs of genital setae.

Material examined: Holotype: Par-79/26; 2 paratypes from the same sample; 5 paratypes: Par-79/32; 9 paratypes: Par-79/38. Holotype and 10 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 6 paratypes (678-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: A similar, scarcely setose *Carabodes* C. L. Koch, 1836 species (*C. nudus* Balogh et Mahunka, 1969) is known from this region. However, on the prodorsal surface its interlamellar setae are originating nearer to each other, also the sensillus is of different shape. A further distinguishing feature is the ornamentation of the notogaster and the ventral plate.

#### *Gibbicepheus austroamericanus* sp. n.

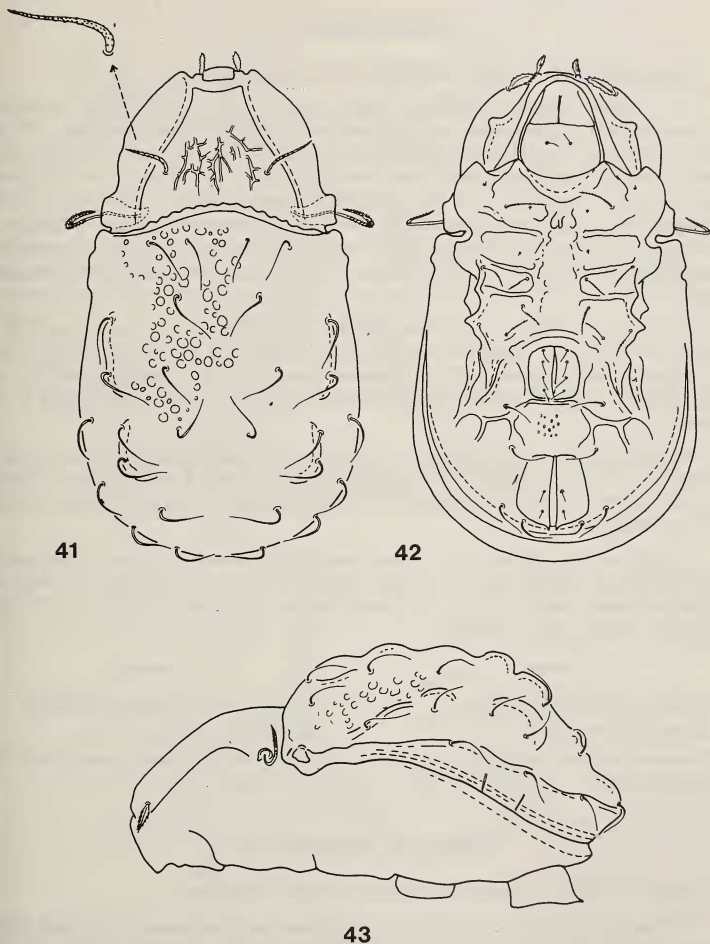
Measurements: Length: 557-679  $\mu\text{m}$ , width: 329-408  $\mu\text{m}$ .

Dorsal side (Fig. 41): Rostral setae dilated, ciliated, originating on chitinous tubercles, latter connected with a translamella. Lamellar setae phylliform, dentate marginally. Interlamellar setae much thinner but longer, acicular, finely barbed (Fig. 43). Sensillus setiform, curved backwards. Interlamellar region with irregular rugae. Notogaster with large ribs or laths, surface foveolated but around insertion points of setae area smooth. Setae thin and finely squamose.

Ventral side (Fig. 42): Epimeral setal formula: 3-1-2-3. Surface of epimeres only with insignificant sculpture, in anogenital region much stronger rugae and foveolae discernible. 4 pairs of genital, 1 pair of aggenital, 2 pairs of anal and 3 pairs of adanal

setae present,  $ad_1$  and  $ad_2$  in postanal position. Anal setae minute, adanal setae similar to notogastral ones.

Material examined: Holotype: Par-79/26; 9 paratypes from the same sample; 6 paratypes: Par-79/15. Holotype and 10 paratypes preserved in the Muséum d'Histoire



FIGS. 41-43.

*Gibbicephus austroamericanus* sp. n.

41: dorsal side, 42: ventral side, 43: lateral side.

naturelle, Genève; 5 paratypes (679-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: Heretofore no species of *Gibbicepheus* Balogh, 1958 was known from South America. The present species is distinguishable from all congeners by the shape of its dorsal setae and the form of lamellae.

#### *Aeroppia nasalis* sp. n.

Measurements: Length: 645-698  $\mu\text{m}$ , width: 398-446  $\mu\text{m}$ .

Dorsal side (Fig. 44): Rostrum like a nose medially. Rostral setae originating on dorsal surface of prodorsum with a transversal line before their insertions. All prodorsal setae long, concentrically ciliated.  $ro < le < in$  (Fig. 46), setae  $le$  arising much nearer to each other than rostral ones. Sensillus small, clavate and round. In interlamellar region 5 pairs of small foveolae and a narrow crista medially, same behind bothridium but triangular. Exobothridial part heavily granulate (Fig. 46). Surface of notogaster with small and longitudinally arranged scratches. 11 pairs of notogastral setae, among them  $ta$  short, 8 pairs of long, 1 pair of minute but normal setiform setae, medially 1 pair of inflated setae ( $ps_1$ ) present, latter 84  $\mu\text{m}$ ,  $ps_2$  173  $\mu\text{m}$  long (holotype).

Ventral side (Fig. 45): Apodemes thin;  $ap. 3$  reduced,  $ap. 4$  convex posteriorly, epimeres 3-4 very large. Epimeral setae different in length,  $lc$  very short, all other long, well barbed. Genital plates gradually widened toward posterior part and with 5 pairs of genital setae. Aggenital and anal setae normal, however,  $ad_1$  similar in shape to  $ps_4$ , inflated.

Material examined: Holotype: Par-79/23; 11 paratypes from the same sample; 6 paratypes: Par-79/27. Holotype and 11 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 6 paratypes (680-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The species of the genus *Aeroppia* Hammer, 1961 are highly similar including some obscure ones. The present species is well characterizable by the long notogastral setae, similar is only *A. vacuum* (Berlese, 1888) sensu HAMMER, 1961. Distinguishing features are as follows:

#### *A. vacuum*

1. Surface of notogaster smooth.
2. Rostrum rounded.
3. Distance between setae  $ta-te$  nearly twice as  $te-ti$ .

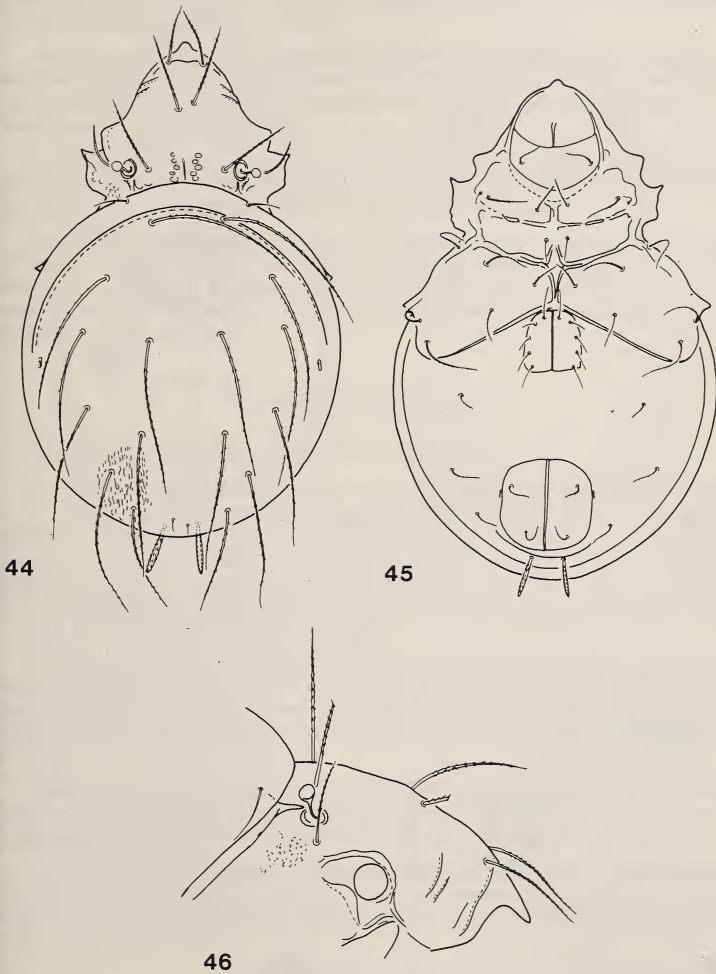
#### *A. nasalis*

1. Surface of notogaster scratched.
2. Rostrum nasiform.
3. Distance between setae  $ta-te$  and  $te-ti$  equal.

#### *Scapheremaeus bisculpturatus* sp. n.

Measurements: Length: 494-529  $\mu\text{m}$ , width: 271-296  $\mu\text{m}$ .

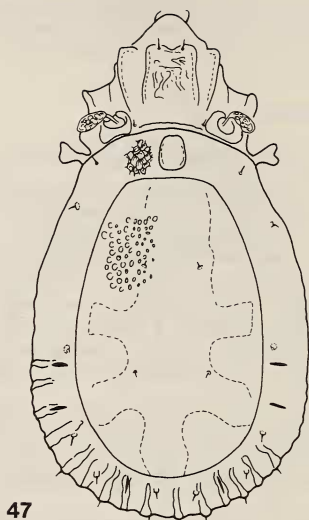
Dorsal side (Fig. 47): Costulae of prodorsum well developed, connected with a transversal lath, latter being convex medially and concave laterally. Cuspis not discernible, lamellar setae emitted on transverse lath. Interlamellar setae minute, rostral setae short and setiform. Sensillus (Fig. 49) large, clavate and with a dark head. The middle part of notogaster with longitudinally and transversally running chitinous laths,



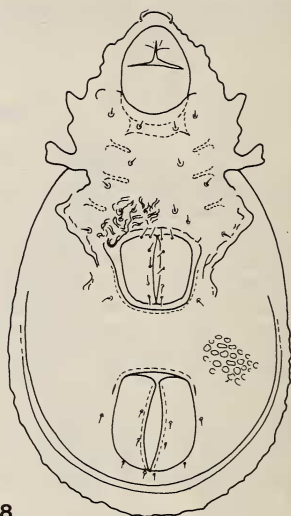
FIGS. 44-46.

*Aeroppia nasalis* sp. n.

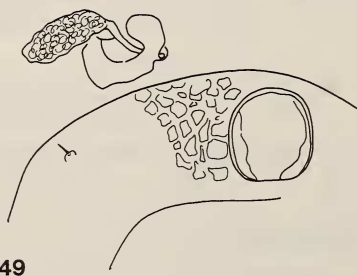
44: dorsal side, 45: ventral side, 46: prodorsum from lateral view.



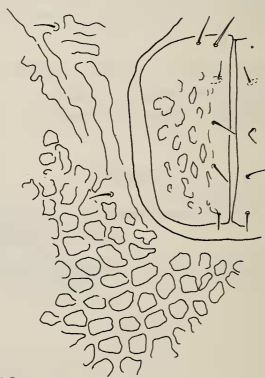
47



48



49



50

Figs. 47-50

*Scapheremaeus bisculpturatus* sp. n.

47: dorsal side, 48: ventral side, 49: dorsosejugal region, 50: aggenital region.



like a double-cross. Surface of this part foveolate. Posterior margin with some strong creases radially, arranged as to point towards a centre, anteriorly with a simple polygonal sculpture. Ten pairs of simple and short notogastral setae  $ps_1$ - $ps_3$  originating on chitinous tubercles at posterior margin of body.

Ventral side (Fig. 48): Entire surface of epimeres with irregularly running creases and ribs. Epimeral setae at their bases with chitinized rings. Genital plate (Fig. 50) with 6 pairs of thin genital setae. Anogenital region with polygonate sculpture. Anal and adanal setae minute and spiniform.

Material examined: Holotype: Par-79/26; 1 paratype from the same sample. Holotype preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (681-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The present species is well characterizable by its sculpture of creases, the shape of sensillus and the 10 pairs of notogastral setae. On this ground it stands nearest to *S. obliteratus* Hammer, 1961 from Peru. However, this latter has 5 characteristic tubercles on the posterior margin of body, but no radially arranged crista on the marginal area of notogaster.

#### *Scapheremaeus longicuspis* sp. n.

Measurements: Length: 365-376  $\mu$ m, width: 190-196  $\mu$ m.

Dorsal side (Fig. 51): Prodorsum with well developed, long costulae connected in the middle by a short transversally running lath, forming the letter H. Lamellae reaching well out from rostrum. Rostral setae simple, lamellar setae claviform, with round head, black. Interlamellar setae minute. Sensillus large and claviform. Margin of notogaster divided by tubercles and incisures. Central surface adorned with cruciform black secret-membrane. Free surface foveolated forming a polygonal sculpture. 10 pairs of black claviform notogastral setae present.

Ventral side (Fig. 52): Epimeral setae minute, with chitinized rings basally. Surface of epimeres with irregularly running creases, surface of genital plates and behind them comprising longitudinal rugae. Anogenital region with a regular polygonal ornamentation. All ventral setae short and simple,  $ad_1$  and  $ad_2$  originating on chitinous tubercles.

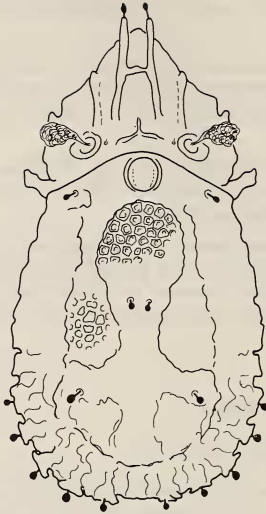
Material examined: Holotype: Par-79/33; 1 paratype from the same sample. Holotype preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (682-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The new species is distinguishable from all other *Scapheremaeus* Berlese, 1910 species by its very long cuspis of lamellae. Similar notogastral setae are known in *S. ornatus* Balogh et Mahunka, 1968 (Argentina), but the notogastral sculpture of the latter is different.

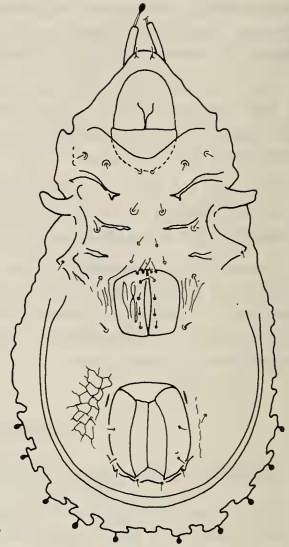
#### *Licneremaeus atypicus* sp. n.

Measurements: Length: 197  $\mu$ m, width: 118  $\mu$ m.

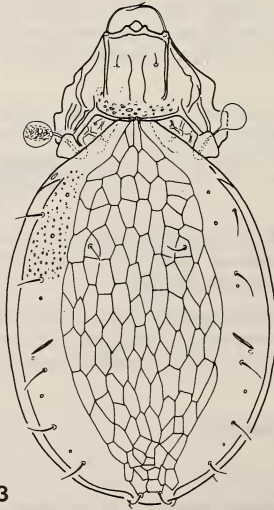
Dorsal side (Fig. 53): Rostrum wide, anterior margin with fine small tubercles, one pair with long rostral setae. Prodorsum with some laths and costulae, these constitute a quadrangular field, where short lamellar setae originate. Basal part of prodorsum with a



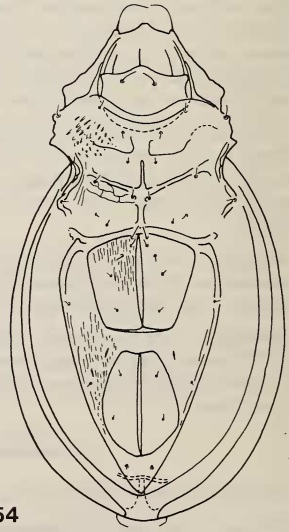
51



52



53



54

transversal lath. Interlamellar setae minute. Sensillus with claviform head. Notogaster gradually elongated anteriorly. Central field with polygonal sculpture, surface granulated marginally. In central field 1, marginally 6, in posteromarginal position 2 pairs of notogastral setae present. 4 pairs of well-visible pori in lateral position.

Ventral side (Fig. 54): Surface of epimeres with small granules arranged in rows. Apodemes weakly developed. Epimeral setae short, hardly visible. Anogenital region well framed, cordiform. Genital opening large, much larger than anal one, both situated close to each other. Surface of ventral, genital, and anal plate with fine scratches, at places with small granules. 5 pairs of genital, 1 pair of aggenital, 2 pairs of anal and 2 pairs of adanal setae present. Pori *iad* situated before and far from anal plates.

Material examined: Holotype: Par-79/33, preserved in the Muséum d'Histoire naturelle, Genève.

Remarks: The generic assignment of the present species is still problematic. The habitus, the shape of the sensillus, the position of the dorsal setae etc. seem to relate it with *Licneremaeus* Paoli, 1908, but the 4 pairs of pori on the notogaster and its sculpture and first of all the narrowed notogaster and the chitinous laths of prodorsum differs it from all *Licneremaeus* species.

#### ***Benoibates chacoensis* sp. n.**

Measurements: Length: 585-674  $\mu\text{m}$ , width: 369-388  $\mu\text{m}$ .

Dorsal side (Fig. 55): Rostrum between rostral setae conically elongated though rounded, with larger foveolae than on basal part of prodorsum. Lamellae longer than half length of prodorsum. Ratio of prodorsal setae:  $ro < le < in$ . Bothridium partly covered. Sensillus with a small head. Dorsosejugal suture slightly concave medially. 10 pairs of notogastral setae of various lengths, 4 pairs of minute sacculi (Fig. 57-58).

Ventral side (Fig. 56): Mentum and epimeral surface laterally with stronger, epimeral surface medially and anogenital region also medially with weaker sculpture. Apodemes well developed, but *ap. 3* not reaching genital opening. Epimeral setal formula: 3-1-3-2. Epimeral setae widely different in length, seta *1a*, *1c*, *2a*, *3a* short, others much longer. Genital plates narrow, with 2 pairs of minute setae. 1 pair of anal and 2 pairs of adanal setae very long, flagellate. Anal plate with rough sculpture.

Material examined: Holotype: Par-79/26; 6 paratypes from the same sample. Holotype and 4 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 2 paratypes (683-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

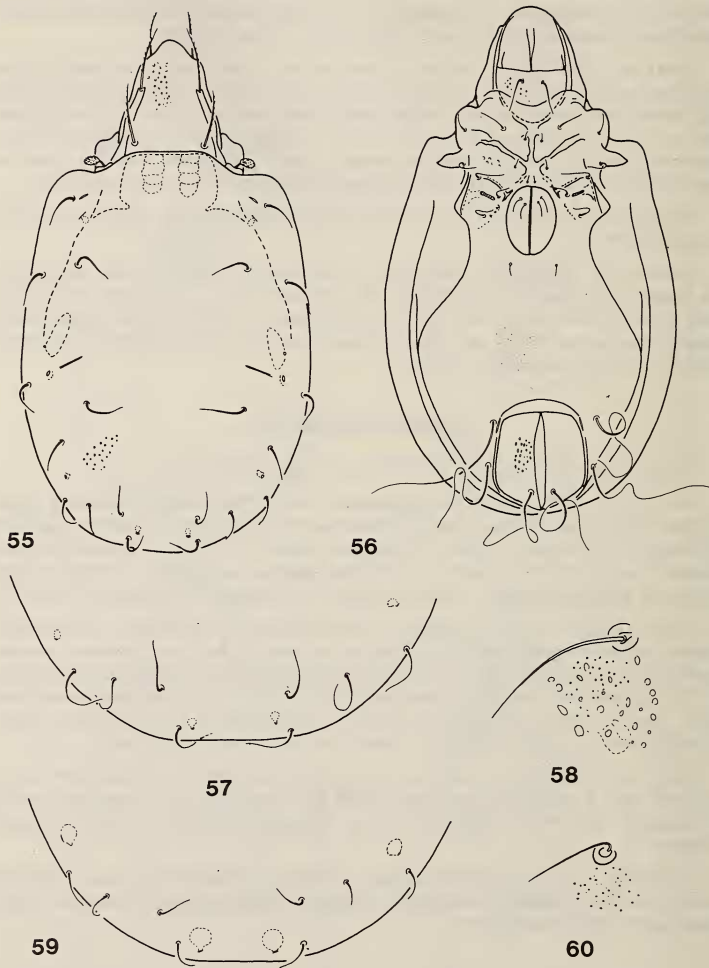
Remarks: Up to now three species of the genus *Benoibates* Balogh, 1958 were known from the Neogaea. These and the presently described two species can be distinguished by the following key:

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FIGS. 51-54.

*Scapheremaeus longicuspis* sp. n. — 51: dorsal side, 52: ventral side;

*Licneremaeus atypicus* sp. n. — 53: dorsal side, 54: ventral side.



FIGS. 55-60.

*Benoibates chacoensis* sp. n.

55: dorsal side, 56: ventral side, 57: posterior part of notogaster with sacculi, 58: sculptur of notogaster;

*Benoibates bolivianus* Balogh et Mahunka, 1969.

59: posterior part of notogaster with sacculi, 60: sculptur of notogaster.

- 1 (2) Notogaster with 11 pairs of setae . . . . . *plurisetus* sp. n.
- 2 (1) Notogaster with 10 pairs of setae . . . . .
- 3 (4) Surface of notogaster with a very rough sculpture. Interlamellar setae much shorter than other prodorsal setae and densely ciliated . . . . .  
. . . . . *amazonicus* Balogh et Mahunka, 1969
- 4 (3) Surface of notogaster with a fine sculpture. Interlamellar setae longer than other prodorsal setae . . . . .
- 5 (6) Setae of prodorsum very long, interlamellar setae reaching beyond rostrum . . . . .  
. . . . . *borhidii* Balogh et Mahunka, 1980
- 6 (5) Setae of prodorsum much shorter, interlamellar setae ending far from apex of rostrum . . . . .
- 7 (8) Sacculi of notogaster large (Fig. 59), Surface of notogaster finely punctate (Fig. 60). Notogastral setae comparatively short . . . . .  
. . . . . *bolivianus* Balogh et Mahunka, 1969
- 8 (7) Sacculi of notogaster small (Fig. 57). Surface of notogaster with larger foveolae, too. Notogastral setae comparatively long (Fig. 58) . *chacoensis* sp. n.

#### ***Benoibates plurisetus* sp. n.**

Measurements: Length: 665-680  $\mu\text{m}$ , width: 339-388  $\mu\text{m}$ .

Dorsal side (Fig. 61): Habitus and surface highly similar to the previous species. Rostrum elongated. Notogaster with 11 pairs of setae, 2 pairs in humeral position. Notogastral setae comparatively long,  $te = 72 \mu\text{m}$ ,  $r_1$  much longer than distance between  $r_1-r_2$  or  $r_1-ps_1$ .

Ventral side (Fig. 62): Surface with similar sculpture as on notogaster. Among epimeral setae  $lb$  much longer than others. Genital and aggenital setae minute, anal and adanal setae very long, flagellate.

Material examined: Holotype: Par-79/26; 1 paratype from the same sample. Holotype preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (683-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: No species in the genus *Benoibates* Balogh, 1958 with 11 pairs of notogastral setae has been known so far.

#### ***Oripoda maxensis* sp. n.**

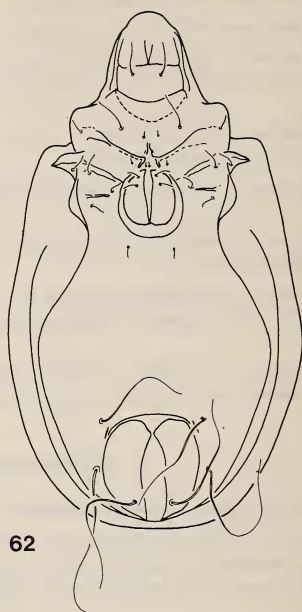
Measurements: Length: 534-592  $\mu\text{m}$ , width: 330-378  $\mu\text{m}$ .

Dorsal side (Fig. 63): Rostrum widely rounded. Ratio of prodorsal setae  $ro < le < in$ , all finely ciliated. Trichobothrium completely covered. Dorsosejugal suture straight. Notogaster with irregularly situated and irregular shaped foveolae. 10 pairs of notogastral setae present. Sacculi very large,  $Sa$  strikingly long.

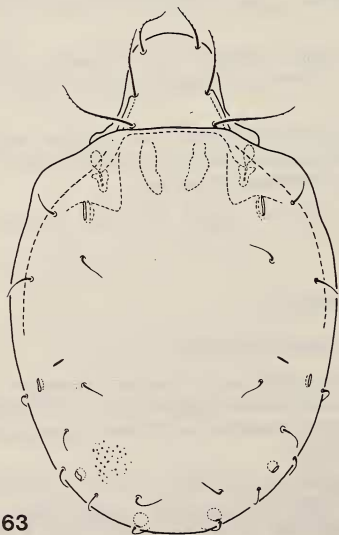
Ventral side (Fig. 64): Surface ornamented, particularly strong on epimeres laterally and also on anal plates. Epimeral setae well developed,  $m$  and  $lb$  setae the longest. Genital setae comparatively long, longer than diameter of genital plates. 2 pairs of long, flagelliform anal and 3 pairs of similar adanal setae.



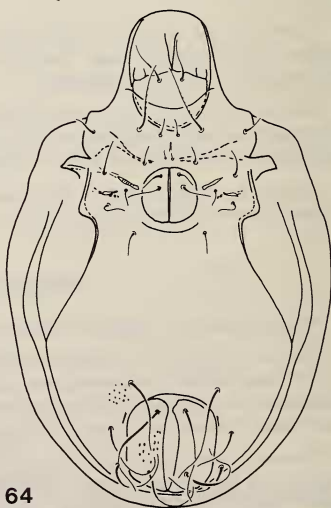
61



62



63



64

Material examined: Holotype: Par-79/26; 1 paratype from the same sample. Holotype preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (685-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The present species stands near to *Oripoda longiseta* Woolley, 1961, recorded also (Woolley 1966) from Brazil. However, in this species *1a* and *1b* setae are equal in length and the position of  $r_1$ - $r_2$ - $r_3$  setae is different (see: WOOLLEY 1966: 13, fig. 5-6).

**Scheloribates dlouhyi** sp. n.

Measurements: Length: 535-566  $\mu\text{m}$ , width: 349-368  $\mu\text{m}$ .

Dorsal side (Fig. 65): Rostral setae originating close to apex and near to each other (Fig. 68). Lamellae very wide, cuspis also wide, lamellar setae situated on cuspis. In front of lamella a transverse line present. Ratio of prodorsal setae:  $ro < le < in$  (Fig. 67), all barbed. Sensillus clavate, small. Notogaster with characteristic polygonal sculpture comprising elongate cellulae, latter anteriorly and posteriorly transversal, while medially longitudinal in position. Four pairs of sacculi, *Sa* much larger than other three,  $S_1$  situated near median line of body. 10 pairs of minute notogastral setae present.

Ventral side (Fig. 66): Surface of epimeres with weak ornamentation. Epimeral setae short, barbed. Pedotecta 2 divided into two. 4 pairs of genital (exceptionally, assymmetrically 3), 1 pair of aggenital, 2 pairs of anal and 3 pairs of minute adanal setae,  $ad_3$  in preanal position.

Material examined: Holotype: Par-79/24; 5 paratypes from the same sample. Holotype and 3 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 2 paratypes (686-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: Only two of the actually known species of the genus *Scheloribates* Berlese, 1908 (*Sch. labyrinthicus* Jeleva, 1961 and *Sch. polygonatus* Balogh et Mahunka, 1974) are characterized by polygonal sculpture. The new species stands nearer to *Sch. polygonatus*, however, on the ground of its nasiform rostrum, the position of the rostral setae and the shape of  $S_1$  sacculi it is well distinguishable from the latter.

I dedicate the new species to C. Dlouhy (Asuncion, Paraguay) for his intensive help in the collecting of this material.

**Peloribates perreti** sp. n.

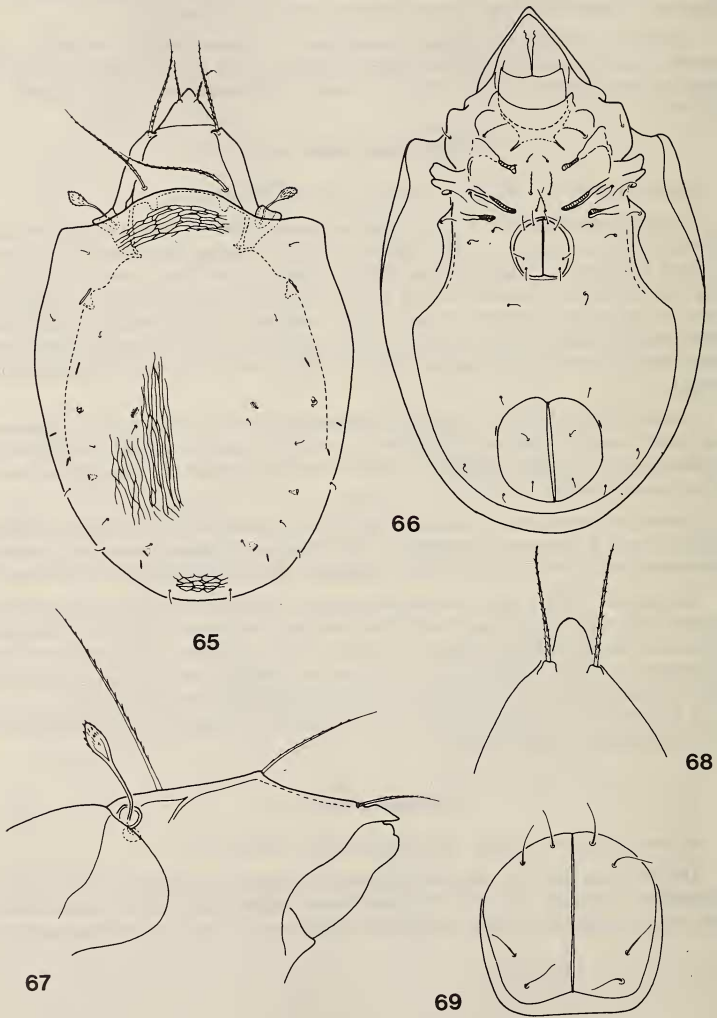
Measurements: Length: 324-336  $\mu\text{m}$ , width: 205-214  $\mu\text{m}$ .

Dorsal side (Fig. 70): Rostrum elongated. Lamellae continued in well-developed prelamellae. Tutorium as in Fig. 72, rostral setae originating on their cuspis. Rostral setae short, bilaterally barbed. Interlamellar setae and 14 pairs of notogastral setae

FIGS. 61-64.

*Benoibates plurisetus* sp. n. — 61: dorsal side, 62: ventral side;

*Oripoda maxensis* sp. n. — 63: dorsal side, 64: ventral side.

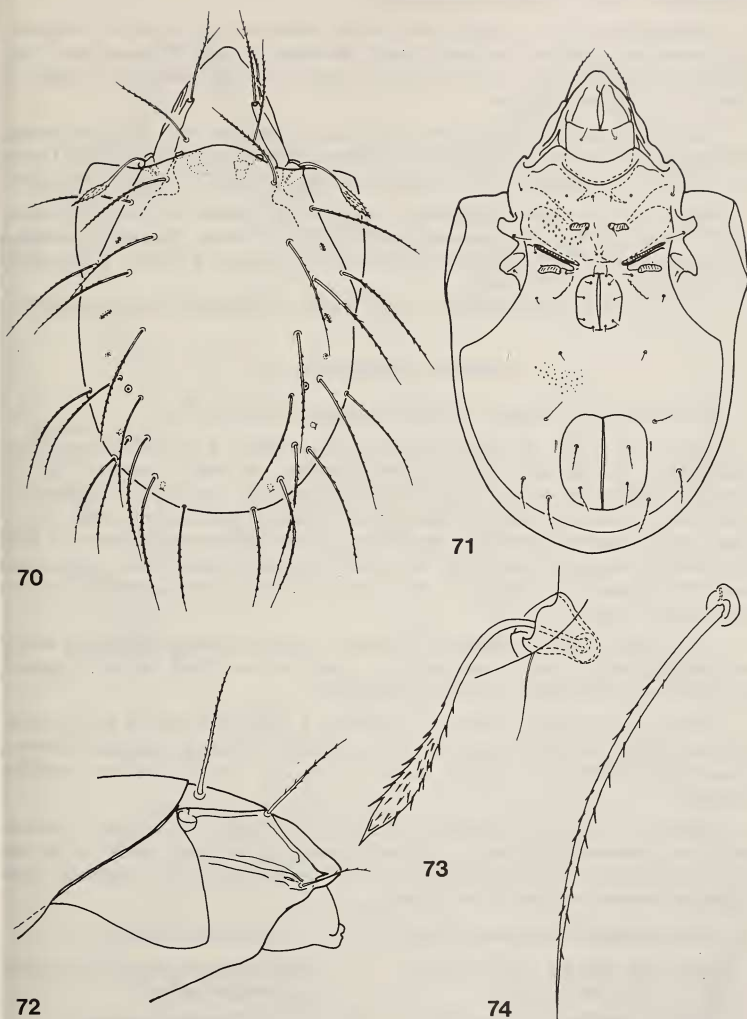


FIGS. 65-69.

*Schelorbates dlouhyi* sp. n.

65: dorsal side, 66: ventral side, 67: lateral part of prodorsum, 68: rostrum, 69: genital plate.





FIGS. 70-74.

*Peloribates perreti* sp. n.

70: dorsal side, 71: ventral side, 72: prodorsum from lateral view,

73: sensillus, 74: notogastral seta.

(Fig. 74) very long, claviform, each ending in a long apex. Surface of notogaster punctulated. 4 pairs of minute sacculi present.

Ventral side (Fig. 71): Surface with similar ornamentation as that of notogaster. All epimeral setae minute. Apodemes weakly developed. 5 pairs of genital and 1 pair of aggenital setae minute, 2 pairs of anal and 3 pairs of adanal setae much longer, all barbed,  $ad_3$  in preanal position.

Material examined: Holotype: Par-79/26; 3 paratypes from the same sample. Holotype and 2 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (687-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: The present new species belongs to the alliance of *Peloribates longisetosus* Willmann, 1930 and *P. longicoma* Hammer, 1958. However, the notogastral setae of *P. longisetosus* are stick-shaped, the sensillus of *P. longicoma* is without a long cuspis and both species are much broader.

The new species is dedicated to Dr. J. L. Perret, a member of the expedition.

#### *Nasobates paraguayensis* sp. n.

Measurements: Length: 494-534  $\mu\text{m}$ , width: 383-407  $\mu\text{m}$ .

Dorsal side (Fig. 75): Body covered with secretion. Rostrum elongated, pig-snout-shaped. Rostral setae thin, originating laterally on small tubercles (Fig. 78). Cuspis of lamellae very wide, rounded, without sharp apex. Lamellar and interlamellar setae thick, verticillately barbed. Sensillus (Fig. 79) clavate, with minute barbs. Dorsosejugal suture interrupted medially. Pteromorphae wide, with smooth margin. 10 pairs of lanceolate notogastral setae (Fig. 80) present, marginal setae shorter than median ones, *ti* the longest of all. Margin of setae dentate. 4 pairs of comparatively large, not typical sacculi present.

Ventral side (Fig. 76): Surface ornamented with fine wrinkles. Apodemes weakly developed. Epimeral setae — excepting *3c* — short and very finely barbed. Aggenital, anal and adanal setae short,  $ad_1$  and  $ad_2$  phylliform.

Material examined: Holotype: Par-79/23; 3 paratypes from the same sample. Holotype and 2 paratypes preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (688-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

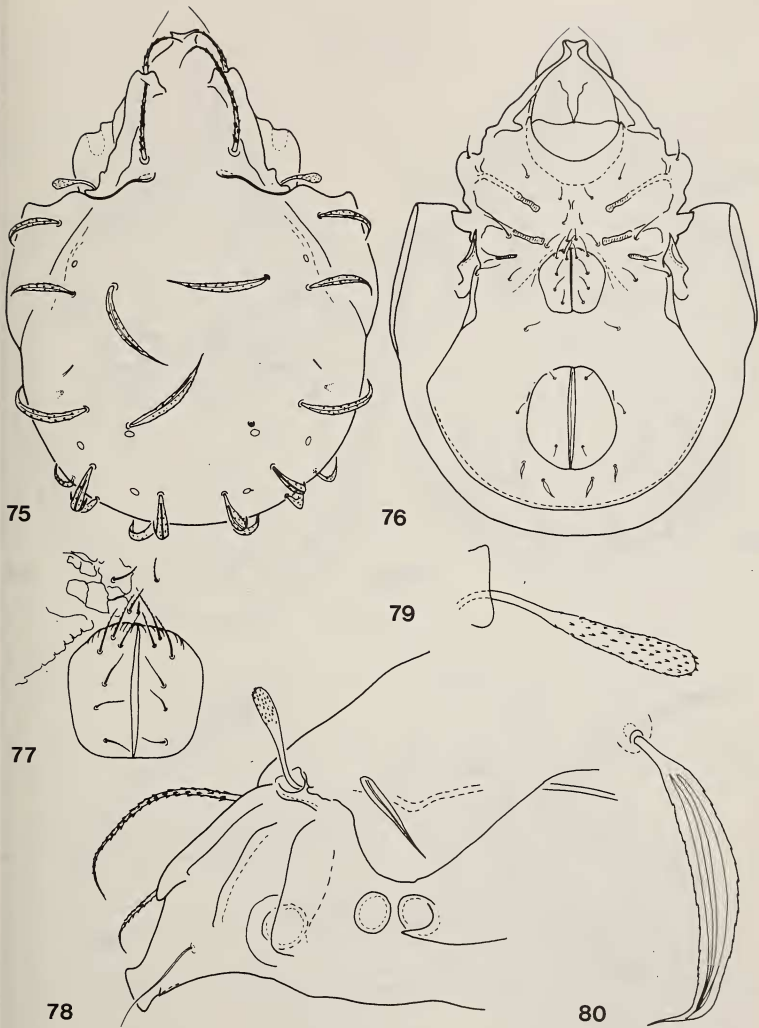
Remarks: Only the type-species described, from Brazil, of the genus *Nasobates* Balogh and Mahunka, 1969 has so far been known. This is closely related to the new species, consequently the reexamination of the type-specimens was necessary. Their differential features are given in the following:

#### *N. mirabilis* Balogh et Mahunka, 1969

1. Rostral and lamellar setae very fine (Fig. 81) and finely barbed.
2. Cuspis of lamellae with two sharp apices (Fig. 83).
3. Sensillus fusiform (Fig. 84)
4. All three pairs of adanal setae thin.
5. Sacculi minute, like pori.

#### *N. paraguayensis* sp. n.

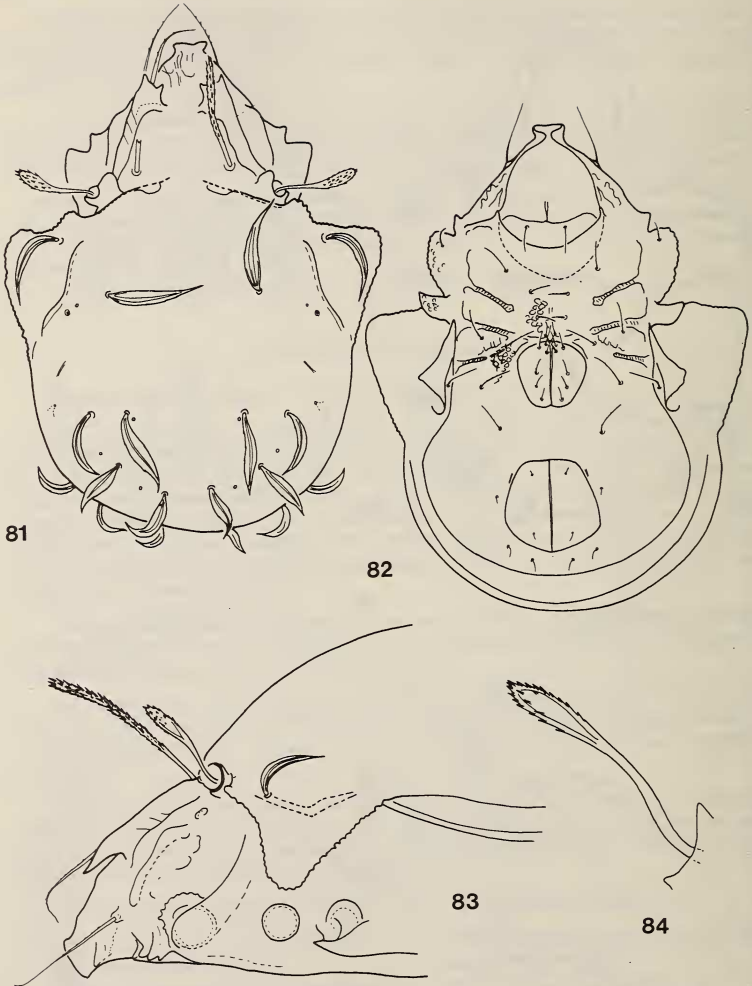
1. Rostral setae fine, lamellar setae thick and strongly barbed.
2. Cuspis of lamellae rounded.
3. Sensillus clavate.
4. Setae  $ad_1$  and  $ad_2$  phylliform.
5. Sacculi large, oval.



FIGS. 75-80.

*Nasobates paraguayensis* sp. n.

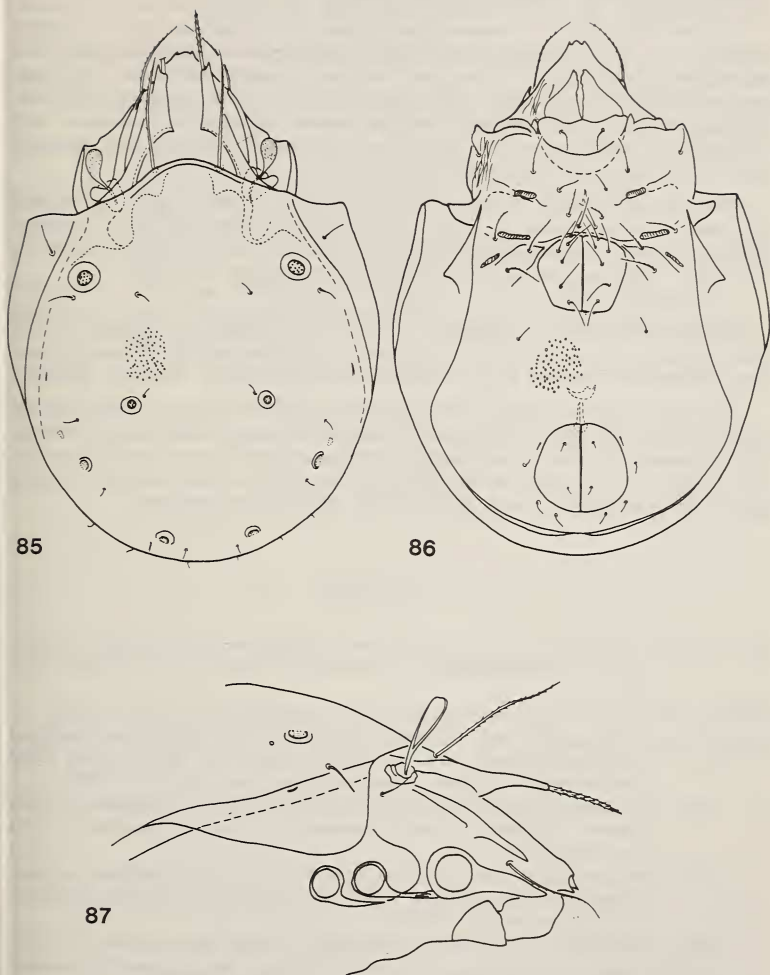
75: dorsal side, 76: ventral side, 77: genital plate, 78: prodorsum from lateral view,  
 79: sensillus, 80: notogastral seta.



FIGS. 81-84.

*Nasobates mirabilis* Balogh et Mahunka, 1969

81: dorsal side, 82: ventral side, 83: prodorsum from lateral view, 84: sensillus.



FIGS. 85-87.

*Magellozetes mahnerti* sp. n.

85: dorsal side, 86: ventral side, 87: prodorsum from lateral view.

**Magellozetes mahnerti** sp. n.

Measurements: Length: 413-441  $\mu\text{m}$ , width: 301-339  $\mu\text{m}$ .

Dorsal side (Fig. 85): Rostrum widely incised, but in dorsal view in the middle concave, so it seems to have 3 apices. Rostral setae originating laterally, but far from tectum, finely barbed (Fig. 87). Genal tooth very large, wide. Lamellae and their cuspis long, running near each other. Lamellar setae acicular, thick, comparatively short. Interlamellar setae long, setiform. Sensillus clavate, broadened. Notogaster with 10 pairs of well-visible setae. Four pairs of *areae porosae*, framed by a thick chitinous ring. *As* the largest. Surface irregularly punctulated.

Ventral side (Fig. 86): Surface of epimeres and anogenital region ornamented with small foveolae, pedotecta 1 with small longitudinal lines and rugae. Epimeral setae long, 6 pairs of genital setae, all long too. Aggenital, anal and adanal setae short, and simple. Setae  $ad_1$  and  $ad_2$  in postanal,  $ad_3$  in paraanal position.

All legs with 3 claws.

Material examined: Holotype: Par-79/23; 2 paratypes from the same sample. Holotype and 1 paratype preserved in the Muséum d'Histoire naturelle, Genève; 1 paratype (689-PO-82) deposited in the Hungarian Natural History Museum, Budapest.

Remarks: On the ground of the number of claws, the shape of *areae porosae* and the long lamellae the new species can be assigned to the genus *Magellozetes* Hammer, 1962. However, the so far known species of this genus have a much broader rostrum, with a much deeper incision, setiform lamellar setae and an other sculpture. On this ground the new species is well distinguishable from all its congeners.

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